

Ophthalmology

Notes

1-Revision

①
Revision Dr Osama

① Embryology:-

- Surface Ectoderm → Lens
- Neural Ectoderm →
 1. Retinal pigment Epithelium
 2. Neural retina

NB All muscles originate from mesoderm except:-

- | | |
|--------------------|----------------------|
| Sphincter pupillae | } Neural
Ectoderm |
| dilator pupillae | |
- Neural crest →
 1. Corneal Endothelium
 2. Vascular pericytes

② Anatomy:-

* Levator palpebral Superioris →

- Insertion →
 - thinner one → anteriorly traversing Orbicularis & attaches to skin (lid fold)
 - thicker posterior attachment → inserts on anterior surface of tarsus
 - 2 more insertions → medial & lateral orbital walls.

• Nerve Supply → upper division of oculomotor.

following / (2) Anatomy:-

* Lacrimal apparatus anatomy: - so

→ MCQ → Lacrimal apparatus opens in inferior meatus.

→ MCQ → DCR "Dacryocystorhinostomy" joins Nasolacrimal duct to Middle meatus.

* Cornea:-

- Layers

- Causes of transparency

- Endothelial cells

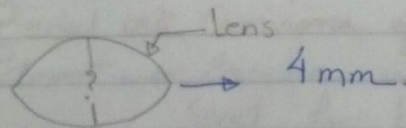
- Gross anatomy

Oral → if Cornea was vascularized, chances of Success of Keratoplasty will → decrease.

* Lens

- Posterior Capsule → has no epithelium beneath it.

- Traumatic Cataract → always posterior.



following / ② Anatomy:-

- * AC angle → Aqueous drainage
- * uveoscleral outflow → 20%
- * Retina → Layers → very important

③ Eye lids:-

1. Chalazion
2. Entropion
 - types
 - sequelae
 - MCC → Most Common Cause of Cicatricial entropion → Trachoma
3. Ectropion
 - types
 - sequelae
4. Trichiasis
5. Blepharitis
 - Seborrhic
 - Ulcerative
6. Ptosis → types
7. NB → the difference between Senile & Congenital ptosis is → the crease
Senile → present, Congenital → absent.
7. Basal cell Carcinoma of lid
Treatment → Excision with safety margins & Send for biopsy

④ Lacrimal Apparatus:-

1. Dacryocystitis:-
- Acute
 - chronic
 - Congenital.

Treatment of Congenital dacryocystitis → v. important.

NB → Epiphora in infant → NLD obstruction
→ Buphthalmous
(Epiphora + photophobia)

⑤ Conjunctiva:-

1. Spring Catarrh
2. GPC
3. Inflammation
- *** 4. Trachoma

• MacCallan's classification

• SAFE Strategy

Surgery - Antibiotics (Azithromycin) - Facial hygiene
Environmental Sanitation.

• T_{2b} → indicates 2nd bacterial infection
(∴ Treated by Antibiotics)

• T_{2b} , T₄ → inactive.

* 5. Pterygium

→ types of astigmatism caused by it
→ Treatment.

⑥ Cornea.

1. Keratitis

2. Keratoconus

- Signs
- Symptoms
- Treatment.

NB → Normal Cornea in infant → 10 mm.

⑦ Uvea.

1. Sequelae of chronic uveitis

2. Uveitis as a cause of red eye.

3. How to differentiate between uveitis & angle closure glaucoma → By the pupil

uveitis → Constricted

Glaucoma → vertically dilated, oval

4. Vogt-Koyanagi-Harada Syndrome oral sw sign. →

5. Causes of red eye → Table page 172
Very important.

(7)

⑧ Sclera:-

* Scleritis vs Episcleritis } usually due to systemic disease
↓
lower incidence

⑨ Lens:- ~~lens~~ lens

*** Causes of 2nd glaucoma due to lens.

NB:- Gradual diminution of vision in old patient.

1. Senile Cataract
2. Macular degeneration

⑩ Glaucoma: lens

** 1. Congenital

2. when is applanation tonometer not accurate?

thin Cornea (after LASIK surgery)

** 3. field changes in glaucoma

4. Cupping & changes in optic disc.

5. Nasal step.

6. 2nd glaucoma.

Neovascularisation → Rubeosis Iridis

PDR

CRAO

CRVO (ischemic)

NB → General Anaesthesia affects IOP.

⑧ 29/6/2017

⑧

⑧

⑪ Orbit:-

1. Differential diagnosis of inflammatory proptosis

2. Graves disease

- is the most Common Cause of
 - ↳ unilateral proptosis
 - ↳ Bilateral proptosis
- MCQ • the tendons of muscles aren't affected
- the most serious complication
optic nerve Compression
↳ incidence (5%)

⑫ Errors of Refraction:- L&S

1. Presbyopia → every 5 years add +0.5 to the reading glasses

2. Blindness ↓
definition & classification.

(13) Squint:-

(9)

1. Classification *
2. How to differentiate between Squint (true) & pseudosquint?
 1. Cover uncover test
 2. Corneal Light Reflex
3. Angle Kappa VS angle alpha.
4. How to diagnose phoria
Cover uncover test
- * 5. Refractive errors as a Cause of Squint.
6. 20% of Squinted infants $\rightarrow$ Retinoblastoma
7. How to differentiate between Concomitant & Incomitant Strabismus?
By angle of Squint
Concomitant $\rightarrow$ angle doesn't change
Incomitant $\rightarrow$ Variable angles
with change of direction
& with change of fixing eye
8. Treatment of ~~Ref~~ Amblyopia.
9. BCVA of a patient is 6/6, 6/60, which type of Squint? Unilateral.

(19)

20m

(10)

(14) Retina

* 1. CRAO retinal

Most Common Cause → embolus

* 2. CRVO retinal

Most Common Cause → Thrombus

*** 3. Diabetic Retinopathy

4. Retinal Detachment

** Primary rhegmatogenous retinal detachment

oral 5. How to treat retinal break?

1. identify site of the break

2. fix the break using → cryo
→ Laser

3. Support the break.

6. Retinitis Pigmentosa.

(15) Neuro-ophthalmology:-

1. papilloedema
2. papilloedema vs papillitis
(Table page 222) →
3. Optic atrophy
4. Optic neuritis → Suspect → Multiple Sclerosis
→ investigation → MRI
5. most common of dilated fixed pupil → Mydriatic
6. Efferent rim → made from 3rd nerve & sphincter pupillae.
7. Homonymous hemianopia → Macular sparing why?
 1. due to large area of representation of macula in occipital cortex.
 2. Dual blood supply of occipital cortex from the posterior & middle cerebral arteries.
- ** 8. Pupillary light reflex

(16) Trauma L&S

* chemical trauma

* Sympathetic Ophthalmia

↳ Can occur after years from trauma.

(12)

(17) Clinical Exam.

1. Levator function test

2. Corneal Sensation

• Reflex arc

afferent → Ophthalmic division of trigeminal

Centre → Trigeminal ganglion

efferent → facial

• Causes of Corneal hypoaesthesia

3. Extra-ocular Muscles Examination

4. Pin hole test

5. Applanation Tonometer

6. Direct ophthalmoscope

7. Placido disc.

2-Rounds

Round 1

Round (Dr. Osama Haddad)

(I) Thyroid Eye Disease

1. What is the mechanism of exophthalmos in thyroid eye disease?

Ag Ab reaction $\rightarrow$ Swelling in $\rightarrow$ ^{fat} Extraocular muscles (except tendons)

2. MCQ $\rightarrow$ a patient with thyroid eye disease may have:-

- a. Hyperthyroidism
- b. Hypo thyroidism
- c. Normal thyroid gland (Euthyroidism)
- d. Any of the above.

3. What are the complications of exophthalmos?

- 1. Corneal exposure
- 2. Optic Nerve Compression

4. MCQ $\rightarrow$ % of optic nerve compression in thyroid eye disease
 $\rightarrow$ 5%

5. How to test for optic nerve compression?

- 1. VA $\rightarrow$ decreased
- 2. pupillary light reflex
- 3. Colour perception.

(1)

Q6. Why is optic nerve compression not a common finding?

1. Because length of optic nerve is more than distance between the back of the eye & optic canal giving it a tortuous course.
2. Presence of fat surrounding optic nerve.

7. What are the muscles that are mostly affected by thyroid eye disease?

→ Medial & inferior Recti.

8. What are the signs of thyroid eye disease in the lids?

1. lid retraction → giving staring look
2. lid lag.

9. What is the reason of the staring look of thyroid eye disease patient?

→ Hyperactive Müller's muscle (supplied by sympathetic).

10. Differential Diagnosis of lid retraction (staring look)?

1. thyroid eye disease
2. Sympathetic overtone (↑ Adrenaline).

(II) Trachoma

1. WHO standards for elimination of trachoma:-

SAFE
Surgery → for trichiasis

Antibiotics (Azithromycin → single dose)

Facial Hygiene

Environmental Sanitation (fly control)

2. What are the active stages of trachoma?

T_1 - T_{2a} - T_3

NB → T_{2b} → Not active stage but indicates 2nd infection.

III GPC (Giant papillary conjunctivitis)

1. What is the main complaint of a contact lens wearer having GPC?
→ When they look up & then down, the lens is trapped upward
(Being trapped between the papillae)

2. Differential Diagnosis of GPC:

1. Spring Catarrh.
2. Sutures
3. Contact lenses use

3. Treatment of Spring Catarrh?

1. avoid allergens
2. Cold foment
3. Dark glasses
4. Topical antihistamine
5. Topical mast cell stabilizer
6. Steroids (for short period & shouldn't be repeated without prescription)
7. Cyclosporine A (topical) → (last choice)

4. Side effects of steroids in ophthalmology?

1. Steroid induced glaucoma
2. Steroid induced cataract
3. ↓ VA (up to no PL)

(4)

5. Complications of GPC in Contact lenses wearers?

1. Ciliary injection
 2. photophobia
 3. Lacrimation
- } Corneal
Ulcer

(IV) Corneal Ulcer

1. which type of Corneal Ulcer is related to Contact lenses?

→ Acanthamoeba Keratitis

2. How to differentiate between different types of Corneal ulcers by history only?

Point of Comparison	Bacterial	Viral	Fungal	Acanthamoeba
1. Pain	Moderate	Minimal	Minimal	Severe
2. Injection	Maximum	Minimal	Minimal	Minimal

3. why is acanthamoeba Keratitis characterized by Severe pain?

→ Because it dies in the nerve endings → perineuritis

4. what are the characteristics of viral Corneal ulcer?

1. dendritic Shape
2. Recurrence
3. Hypoesthesia
4. Superficial
5. Caused by Herpes simplex type 1 (mainly)

(6)

5. Treatment of viral Corneal ulcer?

Acyclovir (Zovirax)

NB → Acyclovir Can't be used for more than 10 days because it is Epitheliotoxic

(V) Glaucoma

1. MCQ → Aqueous production → active process
2. MCQ → % of aqueous drained by uveoscleral outflow → 20%.
3. What is the disadvantage of tonometer?
it depends on scleral rigidity
4. What is the disadvantage of Goldmann applanation tonometry?
it underestimates the IOP in patients with thin Cornea
(e.g. a patient who had LASIK).
5. In Cases of thin Cornea, How to measure IOP?
Using pneumotonometer
6. Normal IOP → 10-21 mmHg.
7. What are the earliest 2 signs of Congenital glaucoma?
photophobia & lacrimation (Continuous)
8. What is the cause of photophobia & lacrimation in Congenital glaucoma?
→ Corneal Oedema
9. Differential Diagnosis of Continuous lacrimation in a new born?
 1. Nasolacrimal duct obstruction
 2. Congenital glaucoma.
10. MCQ → Measurement of IOP in a new born → total anaesthesia
11. MCQ → Treatment of Congenital glaucoma → Surgical at once
(No medical ttt)

12. MCQ → Aniridia (Congenital absence of iris) →
Causes glaucoma.

13. MCQ → Aniridia → 35% of them have Wilms tumor.

14. Signs of acute glaucoma (Angle closure):

1. Ciliary Congestion
2. Cornea → not clear (ground glass)
3. Pupil → oval dilated (vertically) → pathognomonic

15. What are the predisposing & precipitating factors to acute glaucoma (angle closure)?

Predisposing factor → Small eye (Hypermetropia)

Ppt factor → dim light → pupil mid-dilatation
(iris touches lens curvature → pupillary block)

16. Treatment of acute angle closure glaucoma:

1. Hospitalization
2. Analgesics (Morphine)
3. Drugs to ↓ IOP
4. Surgery (Peripheral iridotomy)
- *** 5. Peripheral iridotomy in the fellow eye (prophylactic)

17. what is the significance of iris shadow after iridotomy?

→ it means presence of iris bombe
∴ incomplete iridotomy (not including all fibers)

18. How to confirm success of iridotomy surgery?

→ using Ophthalmoscope → Red reflex

- Normally → 1 red reflex (of the pupil)

- after iridotomy → 2 red reflexes ┌ → one of the pupil
└ → one of the new iridotomy

VI Other Questions

1. What are the indications for removal of Conjunctival nevus?

1. Disfigurement
2. Increase in Size

2. MCQ → a nevus can never develop in cornea
→ due to lack of melanocytes.

3. How to differentiate between acute iritis, glaucoma & corneal ulcer?

The Pupil

- Acute iritis → Constricted pupil
- Acute glaucoma → oval & vertically dilated pupil
- Corneal ulcer → Normal pupil.

4. MCQ → Diameter of optic nerve → 1.5 mm

5. MCQ → Optic nerve contains → 1.5 million nerve fibers.

6. MCQ → % of Congenital squint that is due to eye tumor
→ 20%

Round 2

Round Dr Osama 2.

* MCQ *

1. Embryological Origin of lens → Surface Ectoderm.
2. The only Completely avascular structure in the body → Lens.
3. Blood Supply of lens during intrauterine life → Hyaloid System of vessels
NB → the hyaloid system of vessels degenerates at birth.
4. The Substance responsible for dark vision → Rhodopsin
5. The Structure responsible for dark vision → Rods
6. Normal reaction of pupil → brisk reaction
7. why is it mandatory to make biometry & Keratometry before cataract surgery → to measure the power of IOL required.
8. Instrument used in examination of retina resembling MRI
↳ OCT.
9. Fovea is composed of → only 1 layer.
10. Cilioretinal Artery is present in % of population → 20-30%
NB → its advantage → if Central retinal A is occluded, it will compensate
11. Most Common Cause of Central retinal vein occlusion → Thrombus
12. Most Common Cause of Central retinal artery occlusion → Embolus.
13. predisposing factor to CRVO → glaucoma by thrombus.
13. NB Acute glaucoma is predisposing factor to CRVO & vice versa.
14. Artery passes above vein in → 80% of the population.

following MCQ

15. CRVO can lead to → 90 day glaucoma

16. Any Cause of ischemia in retina leads to → Rubeosis iridis

NB → Causes of ischemia in retina

1. DM
2. CRVO
3. CRAO
4. Long standing retinal detachment.

17. In a diabetic patient with rubeosis iridis, what parameter would you do for him → IOP measurement

18. CRVO in young patient, related to → Blood disease

19. CRAO in old patient, the embolus most probably come from → Internal Carotid

20. CRAO in young patient, the embolus maybe coming from → Cardiac origin.

21. Clinical picture of CRAO → Sudden painless loss of vision

22. Complete retinal damage occurs after → 97 minutes of CRAO

23. Normal Artery: vein thickness → 2:3

Retina

1. Enumerate retinal layers starting from Vitreous Side: "لـ جـ سـ د"
= Start from the most inner layer.

1. Internal limiting membrane
2. Nerve fibre layer
3. Ganglion cell layer
4. Inner molecular "plexiform" layer
5. Inner nuclear layer
6. Outer molecular "plexiform" layer
7. Outer nuclear layer
8. External limiting membrane
9. Photoreceptors (rods & cones)
10. Retinal pigment epithelium.

2. How to use ERG to examine retina? (Oral)

- Electroretinogram has 2 electrodes
one should be put at the retina & the other at the canthus.
- Dim light → to test scotopic response (rods functions)
- Bright light → to test cones function.

Q3

3. Which instrument should be used in the following cases in examination of retina?

- ① Test for malingers → VEP (Visually Evoked Potential)
- ② Dense Cataract → Ultrasound
- ③ Test for photoreceptors functions → ERG (Electroretinogram).
- ④ Test for thickness of retina → OCT
- ⑤ Test for retinal vasculature → Fluorescein angiography.

4. In US of posterior segment:

- Normally → C Shaped →)
- High Myopia → Trapezium → }

5. What is the adaptive structure of Macula to high IOP?
5 ganglion cell layers.

6. A patient with CRAO, VA is NO PL, why?
→ Ophthalmic Artery occlusion.

7. What is the aim of treatment of CRAO by embolus?
to dislodge the embolus away from the central retinal artery
How? by Sudden VD of vessels
How? by Sudden lowering of IOP.
How? by Anterior chamber paracentesis.
Other method? Hyperventilation (↓ P_{CO_2})

Case

8. 28 years male. Complains of gradual painless diminution of vision, retina shows pigmentations in the form of bone corpuscles.

- A. What is the diagnosis? Retinitis pigmentosa
- B. What is the type of these pigments? Melanin pigments
- C. What is your advice for him before getting married?
Genetic Counseling especially in case of consanguinity
- D. What are the types of inheritance in his disease?
1. Autosomal Recessive
 2. Autosomal Dominant
 3. X linked recessive.
- E. Which of these types is the most dangerous? X linked recessive
- F. In case of X linked recessive, what is the case of the offspring?
- Males $\rightarrow$ diseased
 - females $\rightarrow$ Carriers
- G. What is the reason of blindness in this case? Optic atrophy
- H. What is the most common complication? Complicated Cataract
- I. When would you recommend surgery for him?
Mid peripheral field loss (tubular field)

⑨ Enumerate Causes of tubular field:

1. Primary open angle glaucoma
2. Retinitis Pigmentosa
3. Acute Central Retinal Artery occlusion

⑩ Why do patients with VA of No PL have severe psychological disturbance? (oral)

Because they lost the sense of day timing
∴ they lost their Circadian rhythm

Cataract

1. Enumerate the factors that suggest unfavourable outcome of Cataract Surgery?

1. VA not equivalent to amount of Cataract.
2. No colour perception (Macular dysfunction)
3. History of Trauma
4. History of Diabetes
5. Corneal opacity
6. Sluggish reactivity of pupil
(Normally pupil should have brisk reaction)
7. Squinted eye before development of Cataract
∴ Amblyopic eye → (Cataract Surgery won't restore Vision)
8. Elevated IOP
9. visual field defects.

2. What are the mandatory investigations of Cataract patient before the Surgery?

1. A Scan & B scan
 2. Biometry
 3. Keratometry
- } → to measure power of IOL required.

3. A patient having Squint & Cataract in the same eye, will the Cataract Surgery correct Squint in this eye?

→ if Squint developed before Cataract:-
this eye becomes amblyopic & cataract surgery can't restore vision & won't correct squint.

→ if Squint developed after Cataract:-
this means that the patient was heterophoric & the Cataract acts as permanent Cover test
∴ if the Cataract is removed → the Squint will be corrected.

4. Symptoms Suggestive of Endophthalmitis after Cataract Surgery?

1. Lacrimation
2. Pain
3. Photophobia.

Round 3

①

Round Dr Osama 20/3/2016

1. True or false

→ There are no viable areas in rubeosis iridis

→ True.

2. What is the difference between optic disc oedema & papilloedema?

→ Papilloedema is optic disc oedema due to ↑ intracranial pressure.

3. What are the other causes of optic disc oedema?

1. CRVO

2. Hypertensive Retinopathy

4. What are the signs of ↑ Intracranial pressure?

1. Headache

2. Projectile Vomiting (not preceded by nausea)

3. Squint "Sudden, paralytic"

5. What is the etiology of Squint in ↑ Intracranial pressure?

6th nerve palsy

6. MCQ → the only nerve affected by ↑ Intracranial pressure

6th cranial nerve (abducent)

7. MCQ → the longest intracranial ocular nerve

4th cranial nerve (Trochlear)

(2)

8. why is the trochlear nerve the longest intracranial ocular nerve?

→ Because it gives the Contralateral Superior oblique
(Right trochlear gives the left Superior oblique).

9. why is the 6th nerve the only nerve affected by ↑ Intracranial pressure?

→ Because the abducent passes on the petrous bone & above it passes the ligament of Gruber

∴ Any Compression on the abducent Causes nerve tear

10. MCQ → In 3rd nerve lesion, the most probable cause is -

→ Aneurysm or tumor in the arteries.

11. why is this the most probable cause?

→ Because the 3rd nerve passes between 2 arteries

12. MCQ → Case Complaining of pain, corneal oedema, ciliary injection & high IOP

what is the diagnosis → Optic disc Oedema

13. what is one investigation would you do for this patient?
MRI

14. What is the finding in anterior segment in this case?
Rubeosis Iridis

(3)

15. In Case of Rubeosis iridis what is the type of CRVO?
→ Ischemic of CRVO

16. Describe the veins in optic disc oedema?
→ Tortuous dilated congested Veins.

17. What is the reason of low visual acuity in CRVO?

→ Gradual ↓ VA → Macular Oedema
→ Sudden ↓ VA (Sudden loss of vision) → Vitreous Haemorrhage

18. MCA → Normal macular thickness
→ 1.9μ

19. How to diagnose macular oedema objectively?
OCT

20. How to diagnose macular oedema Subjectively?
Metamorphopsia.

21. How to manage macular oedema?

→ No treatment at all except if he develops neovascularization (Rubeosis iridis)

∴ follow up.

→ In case of neovascularization → Treatment → PRP (pan-retinal photo coagulation)

(4)

22. How does PRP treat neovascularization?

1. Destroy ischemic areas to help vital areas to survive
2. Increase communication with choroid.

23. MCA → PRP destroys → 47% of peripheral retina.

24. Disadvantages of PRP:

1. Tubular field
2. Night vision loss
3. Dark adaptation loss.

25. PRP Indications:

1. Proliferative diabetic retinopathy.
(High risk PDR)
2. Severe Non-proliferative DR or low risk PDR
with non-cooperative patient (patient who
doesn't attend follow ups)
3. CRVO with neovascularization.

26. What is the main complication of NVI?
Neovascular Glaucoma

27. MCA → Most severe type of 2nd glaucoma & has no
treatment → Neovascular Glaucoma

(5)

28. Diabetic patients who aren't at risk of developing PDR?

1. High myope
2. patient with optic atrophy.

29. MCQ CRVO in young patients → Non ischemic type
→ Excellent prognosis
→ pathology due to phlebitis

30. MCQ

- CRVO in young patient → Rheumatic
- CRVO in old patient → Thrombus from internal carotid.

31. MCQ → A patient with CRAO, VA is 6/6, what is the reason?
→ cilioretinal artery.

32. Ophthalmic Emergencies.

1. chemical burn
2. CRAO
3. Acute congestive glaucoma
4. ↓ Detachment of retina not involving macula.
upper

(6)

33. patient with diabetic retinopathy, Best corrected VA 6/60

(A) What is the most common Cause?
Hard Exudate in fovea

(B) Mention other Causes?

1. Neovascularization
2. Vitreous Haemorrhage

34. MCG → Cystoid Macular oedema → flower like
↳ worst macular oedema due to compartmentalization

35. MCG → Most Serious macular affection in diabetic patients → Macular ischemia

36. ⁴⁰ What are the risk factors which Substantiate PDR

1. duration of DM
2. level of control of blood sugar
3. LDL & cholesterol
4. Obesity
5. pregnancy

37. True & false → Smoking is a risk factor for PDR (X)

(7)

38. MCQ

- Most Common Cause of leukocoria → Congenital Cataract
- Most Serious Cause of leukocoria → Retinoblastoma

39. How to diagnose retinoblastoma?

- dilated fundus examination

40. A patient with Hyphaema.

A. Mention one parameter for follow up? IOP

B. Is hospitalization recommended for this patient? No

C. what is your advice for him? Bed rest

D. what will you check in his follow up?

1. IOP
2. Amount of blood

E. When is hospitalization mandatory for this patient?
if he has Sickle cell anaemia

F. What is the treatment of hyphaema?

No treatment, Bed rest & follow up only

G. How will the blood be absorbed?

By iris vessels.

H. When is this patient indicated to have surgery? (paracentesis)
If the IOP becomes 35 mmHg or more for 5 days even after using drugs to lower IOP

I. What are the complications of hyphaema?

1. Recurrence
2. Angle recession glaucoma.

Round 4

①

Round Dr Osama 23/3/2016

Case ①

* Patient Complaining of redness in his eye

1. What questions would you ask him?

1. History of trauma? (to eye or head & neck)
2. Is it recurrent?
3. History of allergy?
4. Does it affect vision?
5. Is it associated with pain?
6. Is it associated with discharge?
7. History of Surgery?
- ** 8. Is it associated with flu like symptoms?
↳ Very common

2. If it is associated with flu like symptoms, what is the possible diagnosis?

→ Viral conjunctivitis by Adenovirus (the most common)

NB * Adenovirus in eye

- ↳ Pharyngoconjunctival fever
- ↳ Epidemic Keratoconjunctivitis.

3. What is the most serious complication of eye surgery?

→ Endophthalmitis

4. MCQ → Endophthalmitis = Vitreous abscess

5. What is the treatment of Endophthalmitis?

- ↳ Intravitreal Antibiotics
- ↳ Vitrectomy

(2)

following Case 1

6. MCQ → the most common cause of the triad:-

1. Subconjunctival Haemorrhage
2. ciliary injection
3. Conjunctival injection

→ Viral conjunctivitis by adenovirus.

7. If you suspect viral conjunctivitis, mention 3 parts of the eye you would examine?

1. Lower palpebral conjunctiva (to search for follicles).
2. preauricular lymph nodes (tender)
3. Cornea → for epidemic keratoconjunctivitis.

8. MCQ → Epidemic keratoconjunctivitis affects:

- a. Visual acuity
- ☒ b. quality of vision
- c. both

9. MCQ → Keratoconjunctivitis may cause → ulcers.

10. Treatment of Adenovirus → Topical steroids.

5 times / day for 5-7 days.

11. Disadvantages of topical steroids → Steroid induced glaucoma
Steroid induced cataract.

12. MCQ → Topical steroid that doesn't affect IOP

→ fluorinated steroids (FML) → Fluorometholone

N.B. → Although FML doesn't affect IOP, it shouldn't be used for long period or without prescription.

(3)

* Case 2

→ A patient presenting with history of local trauma to the eye 2 days ago & complaining of redness in his eye, you examined him & found chemosis & subconjunctival haemorrhage by inspection.

1. What is the 1st step in his management?

→ Examination of the whole eye searching for any lesions.

2. Before the trauma his VA was 6/6, after the trauma it becomes 6/24, what are the possible causes?

1. Corneal edema
2. Corneal abrasions
3. Vitreous Haemorrhage
4. Hyphaema
5. Retinal detachment
6. Iridocyclitis (not common)

3. Can the cause of this ↓ VA be lens subluxation? why?

No, because lens subluxation would give VA 1/60

4. What is the only case in which lens subluxation can lead to VA of 6/24?

High myopic patient.

(4)

following / Case 2

5. Can this patient be presenting with black hyphaema?
why?

No, because the black hyphaema means clotted blood which would take more than 2 days to be black clotted (8 ball hyphaema).

6. MCQ → there is no treatment of hyphaema (✓)

7. MCQ → Hyphaema may be recurrent (✓)

Case 3

→ A patient presenting with 2 red reflexes, D shaped pupil & Vossius ring

1. What is the most probable diagnosis?
Iridodialysis

2. What kind of diplopia will this patient have?
unilateral diplopia (2 red reflexes)

3. Can this patient have vitreous haemorrhage? why?

No, because in vitreous haemorrhage there is No red reflex.

* MCQ → In rosette shaped cataract → posterior opacity of lens gives VA 6/60.

(5)

* Case 4

→ female patient who is a contact lens wearer
↳ Complains of left red eye for 3 days, her hygiene is questionable

1. what is the most probable diagnosis?
Acanthamoeba ulcer
2. what is the most important sign? Ciliary injection
3. Differential diagnosis of ciliary injection?
 1. Corneal ulcer
 2. Uveitis
 3. Acute glaucoma
4. what investigation would you do for her?
✓ Fluorescein staining
5. what is your next step?

Corneal smear → culture

NB → the favorable culture for Acanthamoeba is E. coli rich culture
↳ the culture takes 24 hours, during which → broad spectrum Antibiotics

MCQ → the Most serious causative organism of bacterial Keratitis is pseudomonas.

(6)

* Case 5

→ A patient Complaining of severe abdominal pain, vomiting & red eye

1. what is the most probable diagnosis?
Acute attack of Congestive glaucoma

2. what are the signs you suspect finding in -

- a. lids → edema
- b. Cornea → edema & opacity
- c. pupil → vertically dilated oval pupil
- d. IOP → Elevated

3. After management of the Case what should you do before discharging the patient?

→ peripheral iridotomy of the fellow eye

4. What is the Cause of abdominal pain & vomiting?
→ Vasovagal attack.

(7)

*Case 6

→ A patient Can't see clearly with his reading glasses, he tells you that this is the 2nd pair he changes during 1 year.

1. what is the normal interval of time after which the reading glasses should be changed? About 5 years
2. what is the most important question would you ask him before examination? History of DM
3. He said he wasn't diabetic, but he is hypertensive with hypercholesterolemia, what investigation would do for him? Fasting blood Sugar
4. you examined his BCVA & it was OD 6/24, OS 6/18, you found in the anterior segment faint lenticular opacity. On what are the parameters you would do for him?

1. IOP

2. Dilated fundus Examination

NB → OD = Right eye OS = Left eye

OU = Both eyes.

5. If the fundus examination was free, what is your next step?
OCT to search for Macular edema.

6. MCQ → OCT is the only diagnostic procedure of macular edema → (X)

→ Macular edema can be diagnosed by fluorescein angiography, But, only OCT can show the extent & thickness.

(8)

* Case 7

→ ♀ patient, 49 years old, changed 3 glasses in 6 months, her BCVA, OD & OS = 1, you examined her AC & lens which were fine, she wasn't diabetic.

NB VA = 1 means 6/6

1. what is the 1st parameter you will do for her?
Measurement of IOP.

2. If IOP was elevated, will you treat her as a glaucomatous patient?

No, I should first complete the examination (fundus & field examination)

3. what is the 1st sign of Primary open angle glaucoma?
paracentral (Bjerrum) Scotoma

4. why does she have a problem with reading glasses?
Due to Shifting Bjerrum Scotoma

5. MCQ → Is primary open angle glaucoma a cause of gradual diminution of vision? No.

Round 5

①

Round Dr Osama
24/3/2016

* Case 1.

→ A 20 years female complaining of recurrent swelling in her lower lid for 6 days, it is associated with pain & redness in the lid, there is a small black area on the swollen lid.

1. What is the most probable diagnosis? Hordeolum Internum

2. ~~Can~~ Can it be hordeolum Externum? why?

No, because hordeolum externum is a central swelling attached to a lash

3. What could the black area be?

Necrotic area

4. Would you operate on this patient?

No, because you shouldn't operate on inflamed lid.

5. How would you treat her?

Topical Antibiotics 5 times/day + Hot Compressions.

6. If she has Cataract, Can you do Cataract Surgery at once? No because the lid is inflamed

7. Will you give her steroids? No.

8. If the chalazion is about to rupture, would you leave it to rupture or open it surgically? It is better to be opened surgically

(2)

following / Case 1.

9. what are the Causes of recurrent chalazion?

1. Incomplete Surgery.
2. DM
3. Uncorrected refractive error → (due to Squeezing of eyes "pinhole")
4. Low hygiene.
5. Meibomian glands Carcinoma "very rare"

10. How Can uncorrected refractive error Cause recurrence of chalazion?

Squeezing of eye "pinhole" → eye straining of muscles
∴ muscles need more blood → Congestion → favors stasis → favors infection.

* Case 2.

→ A patient Complaining of Scales in his lashes

1. what is the most probable diagnosis? Seborrheic blepharitis

2. what is the treatment?

Johnson baby Shampoo by cotton tip applicator
massage 5 times 3 times daily
if there is infection → Antibiotic Ointment.

(3)

* Case 3 *

→ 65 years old ♂ Complaining of pain & lacrimation & a swelling under the medial palpebral ligament

1. What is the most probable diagnosis?

Acute Dacryocystitis

2. What characterizes this as a sac swelling?

Being under the medial palpebral ligament
(Any swelling under the medial palpebral ligament is always a sac swelling)

3. What is the cause of recurrent dacryocystitis?

Inferior meatus obstruction

4. What speciality should he be referred to?

ENT to search for inferior meatus obstruction

5. How would you treat him?

Hot fomentis + Topical Antibiotics

6. What is the serious common lesion that could be affecting the lacrimal gland?

Adenocarcinoma

7. How would you proceed? Dacryocystography

8. How would you treat adenocarcinoma of lacrimal gland? Dacrycystectomy (DCT)

9. In case of chronic dacryocystitis would you do DCT?

If there is contraindication to DCR (Dacryocystorhinostomy)
I would do DCT.

(4)

* Case 4

→ 23 years old ♂ complaining of recurrent blurring of vision. you examined him & found posterior synechia → festooned pupil & hypopyon in a quiet eye

1. what is the cause of posterior synechia?
Chronic iritis

2. what can cause hypopyon in quiet eye?
Behçet disease

3. what is the cause of blurred vision?
Acute → Macular edema due to retinal vasculitis
Chronic → Complicated cataract

4. To whom would you refer him? Neurologist

5. Mention the manifestations of Behçet disease?

1. Oral aphthous ulcers.
2. Genital ulcerations
3. Skin lesions (dermatographism)
4. uveitis

(5)

*Case 5

→ A patient complaining of hypopyon, red eye
you examined & found ciliary injection,
subconjunctival haemorrhage & no
3rd Purkinje image.

1. what is your diagnosis?

Endophthalmitis as a complication of Cataract
Surgery (the patient is no aphakic → No 3rd Purkinje

2. during his cataract surgery, the surgeon
made a tear in his posterior
capsule, where would you put IOL?

1. Iris clip lens
2. Scleral fixated IOL

NB

AC IOL is now obsolete
because it will cause "UGH"
uveitis - Glaucoma - Hyphaema

(6)

* Case 6

→ 8 years old patient Complaining of blurring of vision, low VA since birth & you can see the lens without mydriatic eye drops.

1. what is your diagnosis?
Aniridia
2. where would you refer him?
Abdominal ultra sound to search for wilms tumor.
3. what is the suspected ophthalmologic complication in his case?
Glaucoma.

* MCQ → Scleritis / Episcleritis is

- more common in females
- associated with Rheumatoid Arthritis.

* Case 7

→ A patient with Subluxated lens up & temporally

1. what is the most probable diagnosis?
Marfan Syndrome
2. what are the manifestations of this syndrome?
 1. Arachnodactyly.
 2. lens Subluxation
 3. Limb-trunk disproportion
 4. Mitral regurge.

(7)

*Case 8

→ A 4 years old patient complains of fever & enlarged swelling of the whole eye.

1. what is the most probable diagnosis?
Orbital Cellulitis
2. what is the most common cause for it?
Ethmoiditis
3. To whom would you refer him?
ENT Specialist
4. what is the most serious complication?
Cavernous sinus thrombosis
5. How to know if this complication has developed?
Altered Sensorium
6. If he developed this complication, to whom would you refer him?
Neurologist.

MCQs

1. Most Common Cause of leukocoria → Congenital Cataract
2. Most Common intraocular tumor → Secondaries
3. Most Common primary intraocular tumor → Malignant Melanoma

**Round 6 (By Marwa
Maher)**



Marwa Maher ElSamny ▶ Round (5 & 6) 2019

12 Mar at 21:08 • 🌐

Dr Osama OSCE

1) Lower lid ectropion

-cause : senility

-main complaint: epiphora

-advice: to wipe his tears in an upward position

-TTT

2) Lower lid entropion with trichiasis

-cause : can not be trachoma (occurs in upper lid)

cause : cicatricial in lower lid can be due to burn or Steven-Johnsen syndrome

-signs of active trachoma?

-TTT (azithromycin single dose)

3) Rt upper lid ptosis & compensatory Lt upper lid retraction

- The most common cause of unilateral & bilateral proptosis is thyroid eye disease

4) Upper lid chalazion

- The most remote possibility of recurrence is meibomian gland adenocarcinoma

-The most common causes of recurrence are incomplete surgery, diabetes and uncorrected errors (straining leads to congestion)

-TTT

1- infected "HORDEOLUM INTERNUM (topical antibiotics and hot foment)

2- small (leave it)

3-localized(surgical incision)

4-marginal(shaving incision)

5-multiple (combined excision of tarsus and conjunctiva)

6-recurrent (search for the cause)

5) Ptyregium

5)Pterygium

-when should we operate?

-would it grow ? If it is vascular ,it will grow

If it is fibrous ,rarely progress

- we use placido disc,topography and retinoscopy for astigmatism which is first regular with the rule then irregular

6)subconjunctival Hemorrhage

-causes:1-trauma

2-viral conjunctivitis (adenovirus 3,4,7) pharyngoconjunctival fever

-Ebola

3-straining (most common)

4-hypertension and blood diseases

- If traumatic it can be local or due to fracture base of the neck ? Most probably fracture base

We do CT

7)dentritic ulcer

How do we make the lesion more evident? Cobalt blue

8) chemosis (conjunctival edema)

Most probably allergic conjunctivitis

9)acute congestive glaucoma with oval dilated pupil

One of the causes of emergency in ophthalmology

Other causes :2-chemical burn

3-central retinal artery occlusion

4-upper macular retinal detachment not involving the macula

10)corneal ulcer

11)acute dacryocystitis

-Site:below medial palpebral lig.

12)hypopyon corneal ulcer

-severe pain and injection (bacterial)

-severe pain&less injection (acanthaemba)

-less pain &injection(viral &fungal)

13)keratoconus

-diagnosis

-management

-TTT

14)Ant. polar cataract(no operation)

15) Post. polar cataract(operation)

16)Nuclear cataract (worse in light)

17)Pseudophakic

What other possible surgeries ?

YAG capsulotomy

18) bilateral congenital lower iris coloboma

May be associated with other congenital abnormalities in the retina

19)An iridia

-very prone to glaucoma

-TTT contact lens or artificial iris

-30% have associated wilms tumour

20)iridodialysis

-D shaped pupil

-2 red reflexes

-compliant: uniocular diplopia

-TTT: suture the iris

If there is any mistakes ,tell me and ill edit it 😊



Round 7 (By
Marium Emam)

Plus lens

- magnification (sure sign)
- against movement

green on black

لجاءني عينا عشتون آتون
دقيق آتون
high plus lens
مق (+18)

Uses

- Hypermetropia (aphakia) (Presbyopia)
forms of hypermetropia
- Hand magnification
- Macular degeneration
[تلف البقعة ويطول
VF 3 or 4]
- Slit lamp fundus lens
+28 / +79 / +90
Plus lens عكس
Cornea -
bifocal
depth

application

= Purkinje images

3rd
2nd
1st
Pseudophakia
very bright
↑ RI of
IOL
معدن
معدن
michless
RI - 1.5

minus lens

- minimization
- with movement

Red

Uses

- myopia

what about -20?

high myopia
وغيره
10
complications
معدن

Case → immature senile cataract Rt Lt
→ Pseudophakia

Criteria بمترتيب

① History

- gradual painless ↓ VA
- old age 60 years
- diabetes (noted)

HbA1c

لا يتعدى 5%
في ٢٤ ساعة

endothelium
3500 cells/mm²
minimum 500
hydration 10%
Corneal edema → opacity
Cones apoptosis
↓ VA

• HTN
~ with
anesthesia

• trauma history

② Examination

Structure	أشرف له في Cataract	أشرف مستقر في القرنية	الحال ؟
eye lid	فتش حاجة تقوى	↓ sty chalazion blepharitis trichiasis → لا تقوى في العين epilation من القرنية	
conjunctiva	—	↓ conjunctivitis	أشرف لها وقران في أسف العين القرنية
Cornea	—	↓ opacity حشيشه ulcer في القرنية Keratoplasty	مقولة احد صنف القرنية من بين مستقرين في العين Keratoplasty قسطرة
AC	—	—	—
Pupil	color (white) ← senile sclerotic (less & irregular) Cataract ↓ VA black old / opacities Pseudophakia	reaction Brisk Sluggish # →	afferent optic optic atrophy لا تستجيب Cataract برؤوس صنفين في العين

WHO

low vision

$$\frac{3}{60} \Rightarrow \frac{6}{18}$$

after full
correction
in the
better eye

Blind

less than
 $\frac{3}{60}$

① in better
eye after
full correction

② or VF
μ5

③ Night blindness

④ Color

صنف

$\frac{2}{60}$ / hand motion

= blind

$\frac{6}{6}$ / no PL

not = blind

$\frac{6}{6}$ / tubular vision ?

[illegible]

3-Lectures

1-Systemic Diseases **& the Eye**

(By Marwa Maher)

Systemic Diseases of the Eye

- DM affects microangiopathy
- Part of body has no vascular supply → crystalline lens
- Manifestations
 - ① fluctuating refractive errors (never do reading glasses in non-controlling diabetics)
 - ② Diplopia
 - ③ Extraocular muscle Palsies (3rd nerve spares Pupil, 6th the most frequent) also it affects the 4th
 - ④ Xanthelasma
- 3rd nerve
 - if it is compressed by tumor or microaneurysm we do → MRI
 - Pupillary fibers surrounds the 3rd nerve → dilated Pupil (efferent effect)
- 3rd nerve in diabetes it affects small vessels (inside the nerve → core of the nerve)
So Pupillary fibers are free
- Diabetes on the back of the eye:
 - Small vessels
 - occlusion → ischemia (more serious)
 - dilated & leakage of serum (not blood cells)
- In ischemia → dead area sends impulses to the neighbouring cells in form of vascular endothelial growth factor → to form new vessels (More in young Patients)
then to the Vitreous to the lens → Iris (new vessels together with fibroblast → fibrovascular tissue → contracts → closes angle → neovascular glaucoma)
- Leakage → Macular edema
(More in elderly) → OCT/MRI dedicated to the eye
- Cataract in diabetics is irreversible if it occurs in young People → Presenile Cataract
- Risk factors:
 - ① duration of diabetes (95% will have retinopathy after 50 years)
 - ② level of control of blood sugar
 - ③ hyperlipidemia
 - ④ Obesity (2.5 256 times of developing retinopathy)

Classifications of diabetic retinopathy

- NPDR
Mild, Moderate, Severe, very severe
- PDR (developing vessels)
low risk, high risk

Thyroid eye diseases

- Not related to hormonal levels but it's an autoimmune disease
- Deposits of glycosaminoglycans at the back of the orbit $\rightarrow$ Proptosis
- Also deposits in Extraocular muscles (belly) but tendons are normal
 $\downarrow$ it affects optical nerve (compressed optical neuropathy) in 5% of patients
we test visual acuity

Cardiovascular diseases $\rightarrow$ arcus senilis

in young patients $\rightarrow$ lipid profile

Hypertension $\rightarrow$ occlusion of veins & arteries

Causes of emergency in ophthalmology

- ① central retinal ~~vein~~ artery occlusion (first 90 min)
- ② chemical injuries (1st cause)
- ③ Acute closure glaucoma
- ④ upper retinal detachment $\rightarrow$ by gravity reaches macula
(macula off detachment)

2-Trauma



Farah Helmy El dr. M2lish 7aga zyada bas a2l 3ala kaza 7aga mohema

- 1_hyphema
- 2_sympathetic ophthalmia
- 3_iron and copper
- 4_classification page 243

W 2al lazem n3ref el effect bta3 el blunt trauma 3ala kol 7aga w nb2a systematic nebtey bel eye lids w end with the orbit

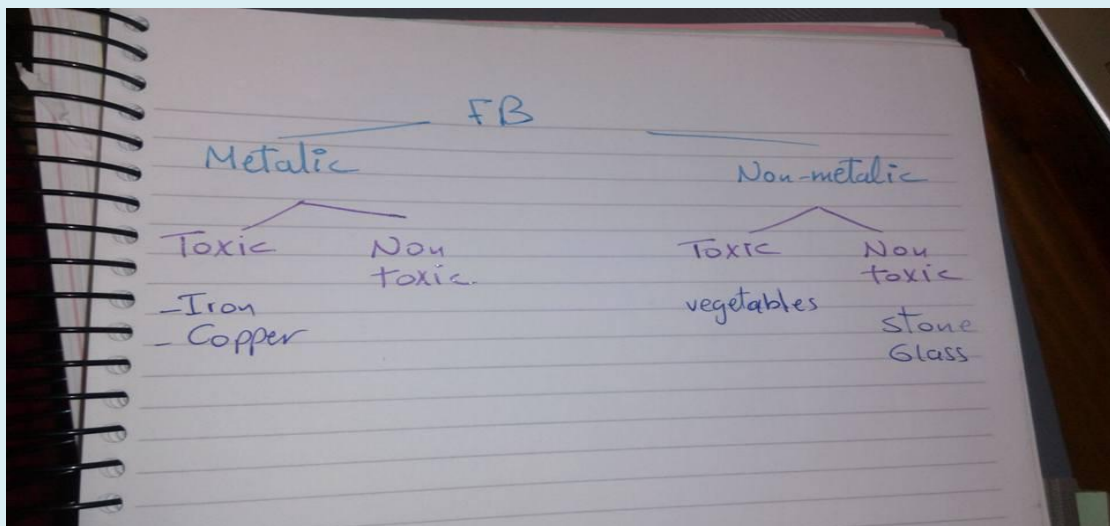
Unlike · Reply · 4 · 1 hr



Manar Elhoseiny 2al el alkli a5tar fel chemical w leh w classification

....hyphema ...iridodialysis...vossious ring...commotio retina ...akd 3ala FB gdn w mmno3 a3ml MRI w en el iron a5tar 7aga w etklm 3n chalosisSRNM e5tsar subretinal neovascular membrane2al el eye never get sympathetic ophthalmia ama y7slha endophthalmitis 34an el heat bt3ml denaturation of pigments so never act as Ag ..

Like · Reply · 2 · 41 mins



Good Luck

Marium Mamdouh